Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

386. Proposed by HERBERT N. CARLETON, Newberry, Mass.

C is a fixed point on the perpendicular bisector of the line segment AB. Locate a point D also on this bisector, such that $AD + BD + DC$ shall be a minimum.

MECHANICS.

309. Proposed by JOS. B. REYNOLDS, Lehigh University.

The tangent at one cusp of a vertical, three arched hypocycloid is horizontal, and a particle will just slide under gravity from the upper cusp to this cusp. Find the equation which the coefficient of friction must satisfy.

310. Proposed by EMMA M. GIBSON, Drury College.

A particle movable on a smooth spherical surface of radius a is projected along a horizontal great circle with a velocity v which is great compared with $\sqrt{2ga}$. Prove that its path lies between this great circle and a parallel circle whose plane is approximately at a depth $2ga^2/v^2$ below the center.

From Lamb's *Dynamics*, p. 334, Ex. 3.

SOLUTIONS OF PROBLEMS.

Note.—When several persons send in solutions for the same problem, the committee naturally and, we think, properly select for publication that one which is not only correct mathematically but is written out in the best form for publication. They must either do this or else, if they select solutions which are in poor form, in order to give as many solvers as possible a chance, they must write these solutions over to save them from rejection by the Managing Editor as bad copy. The task of *putting solutions into acceptable shape for the printer* is one which the members of the committee do not relish,—and who can blame them? This will explain why some names appear more frequently at the head of the solutions than do others, even though several may have solved the same problem. See the suggestions for preparing solutions published in several previous issues. MANAGING EDITOR.

ALGEBRA.

409. Proposed by C. E. GITHENS, Wheeling, W. Va.

Find integral values for the edges of a rectangular parallelopiped so that its diagnoal shall be rational.

REMARKS BY W. C. EELLS, U. S. Naval Academy.

In the February, 1915, issue of the MONTHLY (pp. 60–61) Artemas Martin criticizes my solution of this problem in the October, 1914, issue, stating that I have solved a different problem from the one proposed, and that I claimed that a certain rational parallelopiped was the smallest possible one, whereas he exhibits four others that are smaller.

Since the problem reads "Find integral values" and not "Find *all* integral values, etc." it was in order to impose the condition $x^2 + y^2 = k^2$ or any other condition so long as integral solutions of the equation $x^2 + y^2 + z^2 = a^2$ were found. I showed two general methods of solution, each giving an infinite number of *prime* integral solutions, but did not state nor even suppose that I had found all possible solutions. I fail to see, however, how I solved a *different* problem from the one proposed.

Under my first method, as an example, I gave the solution $(x, y, z, a) = (4, 3, 12, 13)$ as the smallest rational parallelopiped, and it should have been sufficiently